University of Tennessee, Knoxville
TRACE: Tennessee Research and Creative Exchange

Chancellor's Honors Program Projects

Supervised Undergraduate Student Research and Creative Work

5-2021

Free Trade Agreements and Women's Employment Likelihood: The Case of Malaysia

Lexie A. Judd
University of Tennessee, Knoxville, ljudd1@vols.utk.edu

Follow this and additional works at: https://trace.tennessee.edu/utk_chanhonoproj

 Part of the Growth and Development Commons, International Economics Commons, and the Political Economy Commons

Recommended Citation

Judd, Lexie A., "Free Trade Agreements and Women's Employment Likelihood: The Case of Malaysia" (2021). *Chancellor's Honors Program Projects.*
https://trace.tennessee.edu/utk_chanhonoproj/2413

This Dissertation/Thesis is brought to you for free and open access by the Supervised Undergraduate Student Research and Creative Work at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Chancellor's Honors Program Projects by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

Free Trade Agreements and Women's Employment Likelihood: The Case of Malaysia

By Lexie Judd
Advised by Dr. María Padilla-Romo

Chancellor's Honors Program
Honors Economics Concentration
College of Arts and Sciences
University of Tennessee, Knoxville
April 2021

Acknowledgements

I would like to thank my advisor, Dr. María Padilla-Romo, without whom this project would have never happened. Her expertise, support, and advice on my methods as well as her willingness to learn about a new part of the globe along with me made this project a worthwhile and formative endeavor. Thank you, also, to Dr. Benjamin Compton who helped me begin to identify my research question and developed my interest in data-driven research through his courses and advice. I am also grateful to Dr. Kenneth Baker who connected me to Dr. Padilla-Romo in the first place and has been a constant source of mentorship through my academic career.

Abstract

The increasing emphasis on international trade as a means for economic development led nations across the globe to liberalize trade at the end of the 20th century. These policies were especially prominent in Southeast Asia where the era transformed the region into one of the most economically open in the world today. Along with policy and institutional contextualization, this paper empirically examines the effects of Malaysia's 1990s free trade agreements with both Romania and Chile on women's employment. Using individual-level census data, state-level employment data, and national-level export data, the work measures the effect that the free trade agreements have on the likelihood of women's employment between 1991-2000. There is insufficient evidence in this work that these agreements had any effect on the likelihood of women's employment.

1 Introduction

The 1980s was a decade of significant trade liberalization throughout the global economy. Technological revolution, free market-oriented trade policies, and changing needs of workforce compositions contributed to the broader global integration of goods and services and greater employment opportunities in the countries leading in these trends (Ozler, 2000). Though this was before gender-economics became generally studied, questions of the social outcomes of this era's policies have been widely researched after-the-fact. There has been contention about whether global trade liberalization managed to help women by increasing their labor force share and employment outcomes or if they were excluded from the newly expanding economic opportunities. Much of the previous literature from this time period yields an array of answers -- from increasingly free market policies both helping or hurting the economic activities of women in the formal sector. However, little research exists for the case of Malaysian women, specifically with reference to the nation's free trade agreements of the 1990s.

This paper seeks to determine if two of the six free trade agreements (FTAs) enacted in the early 1990s affected Malaysian women's employment likelihood by using individual and state level data merged with national-level employment shares and exports to the FTA-participating countries from the years 1991 and 2000. While women are known to have taken significant roles in the export-oriented industries in Malaysia, this work explores the specific relationship between two free trade agreements and their likelihood of employment. This paper finds no evidence that, given the data used, women were more likely to be employed because of the enactment of two of the bilateral FTAs from the early 1990s.

1.1 Trade and Development Theory

The theoretical benefits surrounding trade liberalization are simple. Countries are driven to greater economic development through specialization in sectors where they hold comparative advantage (Zi 2017). This theory, known as the Heckscher-Ohlin-Samuelson Model, asserts that countries participating in trade will generally prioritize exporting goods that use their relatively abundant factors more intensely than other, relatively un-abundant factors. Labor, then, is typically theorized to shift toward the industries in which a nation has an advantage (Danby, 1998). From this, it is practical to assume a nation's labor force may reallocate to and grow in sectors most involved in trade, especially with increased demand from free trade agreements and creating a need for employees within these relevant sectors (Menzes-Filho & Muendler, 2011).

In Southeast Asia, liberalized economic priorities are thought to have helped it to become one of the most open economic regions in the world (Chandra, et al., 2010). Nations here have long prioritized economic growth by orienting their policies and budgets to "improve the flows of goods and services that are exported and imported across borders" (Chandra, et al., 2010). This openness was perceived as vital for economic growth as nations like Malaysia have adopted liberalized trade practices, whether bilaterally via FTAs or other economic partnerships or multilaterally through organizations like the General Agreement on Tariffs and Trade (GATT) (which would become the World Trade Organization [WTO] in 1995), the Association of Southeast Asian Nations (ASEAN), or the Asia-Pacific Economic Cooperation (APEC). Though it is fair to conclude that distinct groups have reaped varying benefits and losses from these liberalization initiatives, men and women have certainly been affected differently by policies enacted across Southeast Asia (Chandra, et al., 2010).

1.2 Gender and Trade Liberalization Literature

Specific questions of the "gendered impact of trade" have long been excluded from the economic mainstream and studied closely only by small groups of gender-conscious economists and women's non-governmental organizations (Meyer, 2006). Exploring the complexities of gender's interaction with trade is vital to account for the different outcomes for men and women in trade liberalizing nations, but it is often challenging to do so. Evidence provided by the Organization for Economic Development and Cooperation (OECD) suggests that women are more frequently employed in small and medium-sized enterprises which can be excluded from trade data, creating an issue of "hidden" women in globalization metrics ("Trade and Gender"). This lack of information and absence of gender-specific data reinforce bias against women with reference to trade policy and illustrates the need for gender differentiated data and research.

It is generally accepted that trade openness in the aggregate bears beneficial effects for economic growth (Yanikkaya, 2003). So, ideally, increased trade has the capacity to improve women's welfare through higher state and individual income and more jobs created which could improve women's labor market participation (Bussman, 2009). However, how free trade agreements (FTAs) and general trade openness affects women's employment in particular holds answers that differ across states and industries. The exploration of this is made more difficult by lack of disaggregated data for men and women's labor activities and the dual role many women hold in both paid and unpaid settings in the formal and informal economic sectors (Ventura-Dias, 2010). However, generally, there is thought to be a positive relationship between trade liberalization and women's workforce participation (Joekes, 1999).

In a broader exploration of the relationship between women's rights and globalization, a long-held theory declares that gender discrimination cannot withstand the increasing competition

that emerges with globalization. One paper, using industry-specific wage gap data to compare concentrated and competitive manufacturing industries between 1976 and 1993, determined that increased competition due to trade in the timeframe contributed to relative increases in female wages earned. Thus, supporting the idea that trade may reduce gender discrimination and benefit women (Black & Brainerd, 2002).

A study based on Turkey utilized plant-level data to explore how the 1983-1985 export-motivated industrialization affected female share of employment in these manufacturing-intensive industries (Ozler, 2000). The results supported the notion that the effects of trade openness is even stronger where workers are employed in lower skilled positions. This makes sense, as the industries most demanded for exporting countries, like manufacturing, seek lower-skilled workers through which to meet the growing export needs.

In a study of Chile, where female labor participation is relatively low, it was predicted that women would be incorporated into the formal sectors of the economy with the enactment of free trade agreements. Chilean women's employment is concentrated primarily in household services, social and community services, and textiles and clothing and are extremely susceptible to challenging market conditions like high unemployment and wage discrepancies. From the models incorporated in the paper, it was determined that Chile's FTA with the United States led to lower tariffs in the export agriculture industry and a general positive outcome for women's total employment share. In the textile industry, however, empirical and qualitative studies yielded uncertain results for the impact on women in the labor force supporting the need for greater availability for gender-disaggregated information (Frohman & Romaguera 1998).

Previous research conducted by the World Bank about Southeast Asia specifically has yielded positive conclusions for women's employment where nations liberalized trade. Though

this work explores data from 1970 to 1995 in Indonesia, Malaysia, and Singapore, female share of the labor force grew significantly from between 26%-31% in 1970 to 37%-40%. It is worth noting that these nations, to staff their export-oriented industries requiring "relatively unskilled, but generally literate" workers, crafted programs to help basic education levels particularly for women and girls (Shepherd & Stone, 2017). It was not simply trade liberalization alone which seemingly brought women into employment, but increased empowerment through education and other human capital investments, begging the question of the impact of FTAs or other growth mechanisms like education attainment for women's employment.

2 Background

For Malaysian women, the 1990s was a decade of significant efforts toward increased gender parity. To understand how this progression has been made possible, it is important to explore strides made since Malaysia's independence in 1957 and the policy created to help women across the country along with racial makeup of the nation. Three primary racial groups of Malay, Chinese, and Indian categorize the majority of the population. Malaysia's government, motivated by increasing the economic status of the Malay community and reduction of the income inequality between races rooted in colonization-era policies, practices affirmative action currently to employ the Malay community in public sector work (Garcia, Marisa, et al. 2015 & Ali, 2016). Race and ethnic identities continue to play an important role in the experiences of women across Malaysia, so it is important to bear this in mind as the labor landscape is being explored.

2.1 Review of the Women's Rights in Malaysia

During the 1980s and 1990s, women were being represented more broadly in the Malaysian government in high leadership positions. The first female judge as well as the first

few female Secretary-Generals of Education and Ministries were appointed in this era. Though this was before the Ministry of Women, Family, and Community Development was created in 2001 to specifically advocate for and look into issues affecting women and families, these appointments were significant strides in women's representation at the time ("THE STATUS," 2010). A crucial turning point for women's rights, however, was Malaysia's 1995 ratification of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). This convention was introduced by the United Nations (UN) in 1979 and signatories were implored to establish legal protections to prevent discrimation against women, establish public institutions through which to protect women, and ensure elimination of all acts of discrimination against women by any person or organization ("Convention"). Though it would take six years after Malaysia ratified the UN Convention for them to incorporate its tenets into the Malaysian Federal Constitution, it resulted in Article 8(2) which provides safeguards and human rights which Malaysian women were seeking. Beyond just the Constitution, Malaysia also had to revise several laws and policies to ensure private and societal fairness was upheld to eliminate discrimination against women ("THE STATUS," 2010).

The first major intersection of women's rights and economic equity policy was introduced nationally as one of the Malaysian Plans. Beginning in 1966 and extending to 1970, the first several of these plans were intended to advance the entirety of the nation via strategic development and economic growth-focused policy ("FIRST MALAYSIA"). Since then, ten additional plans have been enacted and adapted to the needs of Malaysia by keeping updating their economic focus yet also beginning to incorporate more language related to social needs and disparities. The Sixth Malaysian Plan (1991-1995) was the first to significantly address Malaysian gender disparity issues as it undertook the goals of the National Vision Policy on

Women NPW) in 1989. These objectives included the integration of women into national development in order to improve literacy rates, raise quality of life, reduce poverty, and ensure a more prosperous nation (Doraisam, 2005). Though the Sixth Malaysia Plan recognized that women were a vital economic resource, it noted constraints such as:

- competing responsibilities of family and career,
- gender differences in schools translating to occupational differentiation limiting women's adaptability in the labor market,
- societal norms and prejudices against women in the labor market and daily life,
- financial dependence on husbands creating greater risks for women of domestic abuse, leading to less skills and thus preventing of them from securing alternative income sources,
- perception of women as "secondary earners" rather than co-earners leading
- income-generating programs to reinforce the roles of women as ones within the household,
- lack of significant management training along with an absence of professionalism,

as the inhibitors of women's involvement in economic activities seen most significantly throughout Malaysia (Sixth Malaysia Plan, 1990-1995). So, the early 1990s in Malaysia was met with not just trade liberalization, but the onset of policy acknowledging and funding efforts to promote women's equity both economically and socially.

2.2 Review of the Labor Market

Malaysia's women's labor force participation had been increasing since Malaysian independence, moving from the range of 30%-40% in the 1960s-1970s before stagnating in the mid-40% range throughout the 1980s, 1990s, and early 2000s as shown in Figure 1.

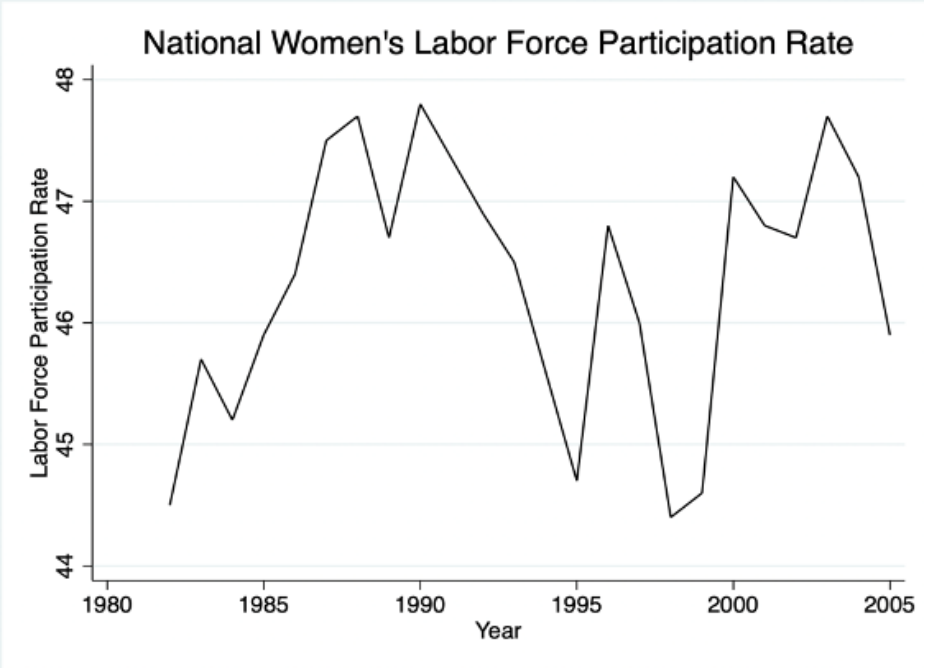

Figure 1
(Data Source: Malaysian Ministry of Statistics)

Generally, women in Malaysia do not conform to the same gender roles as may be seen elsewhere. Though women are primarily responsible for much of the familial duties like childcare, they tend to work in the traditional “blue-collar” and “manual labor” sectors. This includes the manufacturing realm as is seen in Figure 2.

Table 2: Percentage Distribution of Female Labor Force (over Total Labor Force) by Sector (1970-1995)

Sector	1970	1980	1985	1990	1995
Agriculture, Forestry, Livestock and Fishing	38.0	39.0	38.4	34.4	28.4
Mining and Quarrying	12.6	10.3	10.5	12.9	11.9
Manufacturing	28.1	40.1	43.1	46.4	43.4
Construction	5.3	7.5	3.4	6.9	12.4
Electricity, Gas and Water	6.7	7.1	5.6	4.3	7.8
Transport, Storage and Communication	18.2	29.3	37.4	38.6	11.2
Wholesale and Retail Trade, Hotels and Restaurants	4.3	6.3	10.4	11.1	37.6
Finance, Insurance, Real Estate and Business Services	-	29.5	35.1	34.2	40.3
Community, Social and Personal Services; Public Administration; and Other services	-	29.4	36.8	37.9	39.2
Average Percentage Distribution				31.4	33.7

Source : Sixth Malaysia Plan, 1991 and Seventh Malaysia Plan, 1996.

Figure 2
(Ahmad, 1998)

Because of the involvement of women in the export-oriented manufacturing sector, they are considered to have been significant drivers of Malaysia' economic growth (Garcia, Marisa, et al. 2015). However, this paper seeks to determine exactly how much of this can be attributed to the FTAs specifically, not other occurrences which led to economic growth and increased employment outcomes. Malaysian trade, which is heavily reliant upon its manufacturing and "blue collar" sectors, is cited significantly as helping to solidify the role of women in the labor force starting in the late 1980s (Garcia, Marisa, et al. 2015).

Though they play vital roles in the export-oriented economy of Malaysia, the Malaysian Government publicized their women workers as a means to attract foreign investment throughout the 1970s to spur economic growth. They were represented as a malleable workforce with the

ability to mold to any needs of Malaysia's industrialization and incoming industries (Ng, et al., 2006).

It is worth noting that results in this paper may be biased by the significant financial strain that hindered the economic vitality of both Malaysia and its neighbors in the late 1990s. Starting in 1997, the events that would later be described as the Asian Financial Crisis grappled the Malaysian economy as well as that of their neighbors' over the next few years. Simply put, the newly liberalized economies of Southeast Asia were experiencing high capital flows into the region with a lack of information regarding the risks for both borrowers and lenders (Akyüz, 2000). The region became increasingly vulnerable with deregulation, weak institutional frameworks, and capital account regulation eventually leading to the Thai Baht plunging in value leading the way for other currencies, stocks, and asset values to decrease drastically. This all culminated in a massive recession across the region ("Asian Financial Crisis").

2.3 Malaysian Trade Liberalization

The mid-1990s in Southeast Asia -- often regarded as the "East Asian Miracle" by the World Bank -- characterized a period of rapid economic expansion in Malaysia and its regional neighbors (Okamoto 1994). This was largely thanks to significant tariff cuts as well as the end of quantitative import restrictions from the 1980s. By the early 1990s, Prime Minister Mahathir Mohamad introduced the Vision 2020 policy in which the nation was to become fully developed by 2020 (Athukorala, 2005). To get there, the plan introduces industrial upgrading incentives and the improvement of manufacturing sectors and domestic linkages which reoriented the economy toward private-sector focused growth as a tenet for the country's development strategy overall (Athukorala, 2005).

Because of both the trade liberalization and the emphasis on industrial upgrades in the early 1990s, manufacturing boomed in the region as a component of both GDP and total exports. From 1980 to 1997, manufacturing grew as a share of GDP from 13.3% to 30% while manufactured goods increased from 12% of total exports to 81% in those same year (Kanapathy, 2001). Southeast Asian Nations overall grew rapidly as they transitioned to the export-oriented economies global supply chains still rely heavily upon today (Okamoto 1994). As Malaysia began to promote exports as a means of economic growth, bilateral policy became a key component of their economic policy. Free trade agreements (FTAs), one such component of this, were signed with various partners across the world as seen in Figure 3 below.

Free Trade Agreements 1990 - 2000

Partner	*Year Enacted*	*Primary Industries Affected*
Romania	1991	Food Products, Plastic/Rubber, Wood
Chile	1991	Machinery/Electronics
Venezuela	1991	Plastic or Rubber, Machinery/Electronics
Argentina	1991	Machinery/Electronics, Plastic or Rubber
Vietnam	1992	Machinery/Electronics, Textiles or Clothing, Vegetables
Tunisia	1992	Plastic or Rubber, Vegetable

Figure 3
(Source: World Bank WITS Database)

Two of the six trade agreements from the early 1990s, sourced from a government report for the General Agreement on Tariffs and Trade (former World Trade Organization), were selected for this paper because they were enacted early in the decade and ("Trade Policy," 1993). Little information exists for the nature of these trade relationships, however, export data is telling for the industries Malaysia exported most to these FTA partners and thus the relationships were assumed from this available data.

3 Description of the Data

This work utilizes data from a myriad of sources in order to yield a set spanning 1991-2000 incorporating individual level data, state level employment shares by industry, and national level, yet industry aggregated, exports to FTA-involved countries.

To look at individual effects of the FTAs, Integrated Public Use Microdata Series (IPUMS) Census Data were utilized from surveys in 1991 and 2000 which provided 783,192 observations. This research is only considering working age persons, so people aged 0-15 were dropped from the data as well as those over sixty years of age, to account for those both too young and generally too old to be working for the sake of this study.

	1991		2000	
	Men	*Women*	*Men*	*Women*
	(n=96,666)	*(n=96,264)*	*(n=126,667)*	*(n=123,508)*
ln Romania FTA	5.2526	5.2152	7.1683	7.1348
	(1.3652)	(1.4377)	(1.5771)	(1.6000)
ln Chile FTA	4.7001	4.6806	6.1011	6.0708
	(1.6489)	(1.6858)	(1.7638)	(1.7756)
Malay Dummy	0.4458	0.4720	0.4665	0.4814
	(0.4971)	(0.4992)	(0.4989)	(0.4997)
Citizen Dummy	0.9345	0.9565	0.9199	0.9379
	(0.2474)	(0.2040)	(0.2715)	(0.2414)
Employment Dummy	0.7518	0.3467	0.7268	0.3714
	(0.4320)	(0.4759)	(0.4456)	(0.4832)
Age	32.6166	32.4457	33.7052	33.4504
	(11.4666)	(11.4792)	(11.7312)	(11.5724)
Standard errors in parentheses				

Table 1:
Summary Statistics

State level data on employment, including women's share of total labor force and industry-specific shares of the labor force, came from the Malaysian Ministry of Statistics Time

Series Data. Using the IPUMS state identifying numbers, the state level employment values by industry and total labor force by gender were merged into individual observations. Given Malaysia's dependence on its manufacturing for its exports, the variations in state employment of manufacturing was especially interesting to examine. Figure 4 depicts the variation in intensity of manufacturing as a share of a state's total employment across Peninsular and East Malaysia in the year 1990. Penang, Johor, and Selangor, the states shaded the darkest green in Figure 4, each clearly have significantly higher shares of employment in the manufacturing sectors than some of their neighboring states.

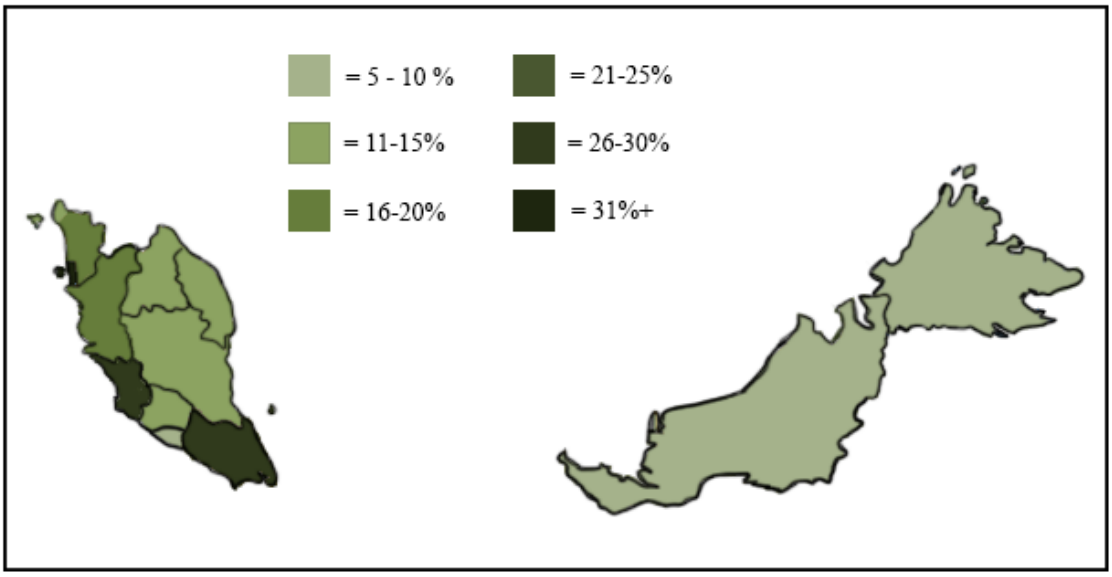

Figure 4
(Data Source: Malaysian Ministry of Statistics)

Export data was utilized from the World Bank's World Integrated Trade Solution (WITS) Database which provided the national-level real Malaysian export values to the world and individual countries aggregated by product-type. The growth in exports from Malaysia before and after the free trade agreements were signed can be seen in Figure 5.

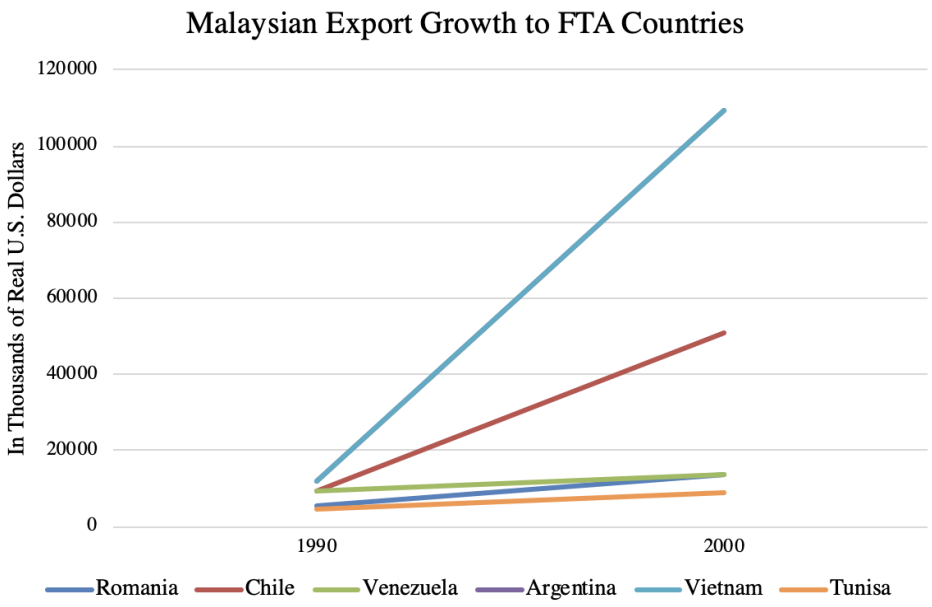

Figure 5
(Source: World Bank WITS Database)

This source also provided the values necessary to determine which industries were most involved with each FTA as denoted in Figure 3. From Figure 5, it is clear Romania and Chile each experienced the most significant increase in Malaysian exports from 1990 to 2000 versus the other nations assessed. Because of the distinct relevance of these two relationships versus Venezuela, Argentina, Vietnam, and Tunisia as is seen in Figure 5, this work will only consider the Chilean and Romanian FTAs and trade relationships with Malaysia as the greater variation in export amounts between the years allow for a higher likelihood of finding significant results.

All thirteen Malaysian states are considered in this work. The federal territories (W.P.) of Kuala Lumpur and Labuan are included in the respective states in which they are geographically contained which are Selangor and Sabah respectively. The additional federal territory which currently exists, Putrajaya, was not established until 1995 and is excluded from this study. While this research could have benefited from state-level export data, these values are not available

publicly and thus proxy values were estimated from available state level shares of industry employment and national level export data.

4 Description of the Model

To compare the two FTAs' effects on the likelihood of Malaysian women's employment, the model utilizes proxy variables for each of the FTAs as well as additional controls for those who are ethnically Malay and citizens at the time of the census survey as factors that may affect employment to attempt to tease out the specific relationship between these FTAs and employment likelihood. A high dimension fixed effects model (command *reghdfe* in Stata) was utilized across the estimations to allow for multiple fixed effects in the model across both individual states and years. Additionally, the regression accounts for varying weights of interviews if they represent more than one individual throughout the IPUMS data.

The primary variable being assessed is the proxy of state level export data shown in the linear probability model which is:

$$Employment_{it} = \beta_0 + \beta_1 ln(X_t * Sh_i + 1)_{it} + dMal_{it} + dCit_{it} + \alpha_i + \gamma_t + \varepsilon_{it}$$

where $Employment_{it}$ is a dummy dependent variable is equal to one if an individual in state i employed at time t. The coefficient of interest, $\ln(X_t * Sh_i + 1)_{it}$, is the natural log of the share of Malaysian employment in a particular industry or industries relevant to the FTA in a Malaysian state multiplied by the real, industry-specific export values from Malaysia[1] to the FTA country plus one. These variables are specified individually for Romania and Chile in separate

[1] Due to limited information available about the industrial priorities of Malaysia's FTAs with both Romania and Chile, their relationship was assumed via which industries had the highest export values from Malaysia to the FTA nations between 1991 and 2000. To Romania, Malaysia exported Food Products, Plastic/Rubber, and Wood primarily, so shares of Malaysia's manufacturing and agricultural employment were interacted with the exports of Food Products, Plastic/Rubber, and Wood for the proxy. To Chile, Malaysia primarily exported Machinery/Electronics, so those exports were interacted with the share of Malaysian employment in manufacturing to create the proxy.

regressions. These natural logs act as the proxy for state level exports, which were unable to be located for this work's data. This coefficient of interest can be interpreted as the change in probability of an individual being employed due to a percent increase in exports of a particular FTA.

To control for the effects of certain demographics on employment likelihood, the model includes two dummy variables derived from the data available. $dMal_i$ is a dummy variable which is denoted as a one where a respondent identifies their ethnicity as Malay in a particular state i during specific year t. $dCit_{it}$ is a citizenship dummy equal to one if an individual census respondent was a citizen in a particular state i during specific year t. Each of these could theoretically have bearing on employment outcomes and thus were included in the specification. ε_{it} is the error term which is robust to serial correlation. The standard errors are clustered at the state level to account for potential heteroskedasticity and any possible serial correlation. α_i represents state fixed effects which controls for any unobserved heterogeneities across states that are constant over time. γ_t serves as the representation of time fixed effects to account for nation-wide changes in employment that are constant across all states and vary over time.

Regressions were run for each agreements separately due to the strong correlation of .92 found between the $\ln(X_t*Sh_i+1)_{it}$ for the Chilean and Romanian FTAs. This is likely because a common and most affected industry, manufacturing, was demanded by both FTAs and included when calculating each FTA's proxy variable. When both variables were run in the same estimation, one FTA proxy was estimated to be negative due to the high level of correlation, so the two were separated to remove as much bias as possible within the scope of the model.

Four regressions were run for each agreement to separate groups by age groups and gender. The isolation of ages into two groups was carried to account for potential variation for

employment likelihood for younger job seekers with less experience or who are recent graduates versus older, and likely more experienced, adults. Each group may face the potential impacts of FTAs differently depending on the industries demanded which supported by previous research where worker skill level was a significant determinant of the effects of FTAs and broader liberalization on an individual's employment (Ventura-Dias, 2010 & Meyer, 2006). Younger adults looking for early career employment with more limited experience could be more employable in much of the lower skilled work demanded by the export-oriented manufacturing sector and therefore affected more. Older adults, however, with more robust experience could experience less of a change in employment likelihood. The models also specified gender to compare the outcomes of men and women, which works to answer the defining question of this work.

5 Results and Analysis

	(1) Men 16-24	(2) Men 25-59	(3) Women 16-24	(4) Women 25-59
Log Romania FTA Proxy	0.000383	-0.0000951	-0.0189	-0.0000927
	(0.0167)	(0.0172)	(0.0265)	(0.0103)
Malay Dummy	0.0327	0.0425***	0.0219	-0.0136
	-0.0191	-0.00319	-0.0152	-0.0118
Citizen Dummy	-0.393***	-0.0898***	-0.216***	-0.0712*
	(0.0173)	(0.0090)	(0.0438)	(0.0268)
Constant	0.843***	0.898***	0.667**	0.437***
	(0.1060)	(0.1100)	(0.1900)	(0.0469)
N	63385	159948	63121	156651
R-sq	0.055	0.008	0.039	0.017

Standard errors in parentheses and are clustered at the state level.
* p<0.05, ** p<0.01, *** p<0.001
Each column represents a different regression and all specifications include both year and state fixed effects in addition to the variables listed.

Table 2:
Regression Output for Romania's FTA

Table 2 reveals the estimates from the model's output with specifications made for both ages and gender for Malaysia's FTA with Romania. The Log Romania FTA Proxy, which is the variable of interest, is estimated to be small and positive yet statistically insignificant across all four specifications. Meaning, the scope of the model was inadequate to estimate any sort of significant relationship between changes in Malaysia's exports and employment likelihood. This was the case for the Chilean FTA proxy as well, which is represented in Table 3 below.

	(1) Men 16-24	(2) Men 25-59	(3) Women 16-24	(4) Women 25-59
Log Chile FTA Proxy	0.0189	0.0091	-0.0036	0.00828
	(0.0288)	(0.0283)	(0.0280)	(0.0142)
Malay Dummy	0.0327	0.0425***	0.0217	-0.0136
	-0.0191	-0.00318	-0.0152	-0.0118
Citizen Dummy	-0.394***	-0.0901***	-0.217***	-0.0714*
	(0.0174)	(0.0092)	(0.0442)	(0.0266)
Constant	0.743***	0.847***	0.569**	0.391***
	(0.1580)	(0.1550)	(0.1660)	(0.0612)
N	63385	159948	63121	156651
R-sq	0.055	0.008	0.039	0.017

Standard errors in parentheses and are clustered at the state level.
* p<0.05, ** p<0.01, *** p<0.001
Each column represents a different regression and all specifications include both year and state fixed effects in addition to the variables listed.

Table 3:
Regression Output for Chile's FTA

Overall, each regression found statistically insignificant results for the effects of each FTA on employment likelihood across age groups and genders. Meaning, a percentage increase in exports to either Chile or Romania is expected to have no significant effects on the likelihood of an individual's employment regardless of age range or gender according to this model. This was generally unexpected, as previous literature has found significant effects on women's labor outcomes from the enactment of broad trade liberalization (Bussman, 2009, & Ventura-Dias, 2010). These other works have found evidence of women having increased employment shares, growth in female labor force participation, industry specific wage increases for women, and general growth in the proportion of women as employees in particular industries. However, the insignificant results could be attributed to a myriad of unaccounted for variables. Workers may

have reallocated toward particular industries demanded by trade, therefore they did not move from unemployed to employed and would not be accounted for in this model. There is also the notion of extensive versus intensive margin. Meaning employed people may have merely taken on more hours or became full time workers, increasing their intensive margins, versus moving into the labor force or employment completely which would alter their extensive margin and be more likely to be captured in this model. To account for this, this paper should have included data for factors like changes in weekly hours worked and income amounts. These insignificant results could also be attributed to lack of within and across state variation in exports due to the lack of available state-specific export data. Other literature will use higher quality measures of trade openness (tariff levels, trade as a proportion of GDP, etc.) along with industry level exports, wages, and employment demographics from which to precisely estimate the effects of trade on women's labor outcomes.

The results of the Asian Financial crisis led to 85,000+ Malaysian jobs being lost which could account for the lack of statistically significant outcomes of FTA enactment on employment likelihood and the negative coefficients of the citizen variable as people were simply less likely to be employed overall given the crisis (Heong, 2009). While the model controls for year and state fixed effects (FE), employment loss from the financial crisis would likely not be mitigated by these state FEs as they are only able to account for the crisis' effects if they were constant across states. With varying intensities of industry and employment across states, each was likely affected by the crisis differently and not experienced the constant changes for which the FEs would have accounted.

6 Future Considerations

Overall, these conclusions present no significant evidence that this model was able to discern a relationship between employment likelihood and the enactment of the free trade agreements. The scope of this paper was extremely limited and was unable to account for significant factors that would have the capacity to influence employment likelihood. Muddied by a lack of data, like state specific export totals, wage averages by industry and gender, industry specific gender employment totals, and no census data between the FTA enactment and the 1997 financial crisis, the scope of this paper was too limited to answer significant questions about women's employment outcomes and likelihood. Future work could benefit from more data and significantly more robust controls through which to account for situations like the financial crisis as well as other variables which would help to account for employment likelihood. To make this work more significant, factors such as wages by gender and industry, tariff rates, multilateral economic partnerships, and a myriad of others would allow the paper to assess much more than employment likelihood, but women's general wellbeing and empowerment after broader trade liberalization efforts. Literature asking exploring similar concepts measures variables such as trade openness (trade as a proportion of GDP) and fertility rates to determine more than just employment likelihood for women like this paper, but general empowerment via measuring trade's impact on school enrollment, total female share of the labor force, sectoral distribution of female employment, and other proxies for well-being.

If gender aggregated industry data were available, it would be interesting to see how women were affected by the FTAs and other mechanisms for liberalization in export-heavy industries like manufacturing. Previous literature has found significant results specifically for women as a share of manufacturing employees, both positive and negative, with the onset of

more open trade practices (Bussman, 2009, & Ventura-Dias, 2010). By specifically exploring both export-heavy and non-export heavy industries to examine if their female shares of employment shifted would allow researchers to better determine the specific relationships between trade and women's labor outcomes.

Particularly in Southeast Asia, the International Institute for Sustainable Development (IISD) released a study on Southeast Asian trade policy and gender which theorized that it is still uncommon even today for trade policy to be pursued based on gender considerations. The perception that trade agreements and liberalization generally affect people regardless of demographics is prevalent amongst most policymakers. The same study noted that governments in the region are known to consult with industries of interest regarding certain export policies, without considering gender implications of trade which have been known to "undermine the livelihoods and well-being of women" because of their often "disadvantaged social status" making trade policies diminishing of state's capacity to "protect promote, and fulfill the economic and social rights of women" (Chandra, Alexander, et al., 2010). Bearing this in mind, future research on the matter should conduct broader studies to compare both gender-conscious and non-gender-conscious trade policies and agreements to determine if there is a difference for the outcomes of women based on the language and considerations of the policies. From there, nations would strategically be able to account for gender and ensure greater parity for women with economic growth efforts.

7 References

Ahmad, Aminah. “Women in Malaysia.” *Asian Development Bank*, Dec. 1998, www.adb.org/sites/default/files/institutional-document/32552/women-malaysia.pdf.

Ali, Ibrahim. “AFFIRMATIVE ACTION IN HIGHER EDUCATION: THE MALAYSIAN EXPERIENCE .” *ERIC - Institute of Education Sciences*, 25 May 2016, files.eric.ed.gov/fulltext/EJ1207798.pdf.

Akyüz, Yilmaz. “CAUSES AND SOURCES OF THE ASIAN FINANCIAL CRISIS.” *UNCATD*, Feb. 2000, unctad.org/system/files/official-document/ux_hi_akyuz.en.pdf.

“Asian Financial Crisis - Overview, Causes, and Impact.” *Corporate Finance Institute*, corporatefinanceinstitute.com/resources/knowledge/finance/asian-financial-crisis/#:~:text=Summary,over%20East%20and%20Southeast%20Asia.

Athukorala, Prema-chandra. “Trade Policy in Malaysia: Liberalization Process, Structure of Protection, and Reform Agenda.” *ASEAN Economic Bulletin*, vol. 22, no. 1, 2005, pp. 19–34. *JSTOR*, www.jstor.org/stable/25773841.

Betz, T., Fortunato, D., & O’Brien, D. (2020). Women’s Descriptive Representation and Gendered Import Tax Discrimination. *American Political Science Review,* 1-9. doi:10.1017/S0003055420000799.

Black, Sandra E., and Elizabeth Brainerd. “Importing Equality? The Impact of Globalization on Gender Discrimination.” *NBER Working Paper No. 9110*, August 2002.

Bussman, Margit. “The Effect of Trade Openness on Women’s Welfare and Work Life.” *World Development* 37, no. 6 (June 2006): 1027–38. https://doi.org/https://doi.org/10.1016/j.worlddev.2008.10.007.

Chandra, Alexander, et al. “The Gender Implications of Trade Liberalization in Southeast Asia.” *International Institute for Sustainable Development*, 2010, www.iisd.org/system/files/publications/beyond_barriers_gender_southeast_asia.pdf?q=sites/default/files/publications/beyond_barriers_gender_southeast_asia.pdf.

“Convention on the Elimination of All Forms of Discrimination Against Women Description.” United Nations, UN, www.un.org/womenwatch/daw/cedaw/.

Danby, Colin. “A Two-Factor World: The Heckscher-Ohlin-Samuelson Model.” *Heckscher-Ohlin Samuelson*, 1998, faculty.washington.edu/danby/bls324/trade/hos.html.

Doraisami, Anita. “The Gender Implications of Macroeconomic Policy and Performance in Malaysia (Draft).” *UNRISD*, Apr. 2005, www.unrisd.org/80256B3C005BCCF9/search/1A294D473D496D48C1256FF600504F12.

“Facts and Figures: Economic Empowerment.” UN Women, July 2018. https://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures.

“FIRST MALAYSIA PLAN 1966-1970.” *Prime Minister's Office of Malaysia*, Government of Malaysia, www.pmo.gov.my/dokumenattached/RMK/RMK1.pdf.

Frohman, Alicia, and Pilar Romaguera. “Free Trade Agreements and Female Labour: The Chilean Situation.” *Cepal Review* 65 (August 1998).

Garcia, Marisa, et al. “Women’s Workforce Participation in Indonesia and Malaysia.” *George Washington University*, Https://Elliott.gwu.edu/Sites/g/Files/zaxdzs2141/f/Nathan%20Associates%2C%20Inc..Pdf, 2015, elliott.gwu.edu/sites/g/files/zaxdzs2141/f/Nathan%20Associates%2C%20Inc..pdf.

Heong, Chee Yoke. “Social Watch Report 2009 - National Reports.” *Social Watch*, 2009, www.socialwatch.org/node/862#:~:text=Exports%20in%20this%20sector%20fell,financial%20crisis%20in%201997%2F98.

Kanapathy, Vijakumari. “Industrial Restructuring in Malaysia: Policy Shifts and the Promotion of New Sources of Growth.” *Institute of Southeast Asian Studies, Singapore*, 2001, doi.org/10.1355/9789812305817-010.

Menezes-Filho, Naércio, and Marc Muendler. “Labor Reallocation in Response to Trade Reform.” *The University of California San Diego*, UC San Diego, CESifo and NBER, 2011, pp. 1–13.

Meyer, Lisa B. “Trade Liberalization and Women's Integration into National Labor Markets: A Cross-Country Analysis.” *Social Indicators Research* 57, no. 1 (January 2006): 83–121. https://doi.org/10.1007/s11205-004-6399-6.

Ng, Cecilia, et al. *Feminism and the Women's Movement in Malaysia: an Unsung (r)Evolution*. Routledge, 2009.

Nordås, Hildegunn Kyvik. “Is Trade Liberalization a Window of Opportunity for Women?” *Staff Working Paper ERSD - World Trade Organization Economic Research and Statistics Division*, August 2003. https://www.wto.org/english/res_e/reser_e/ersd200303_e.doc.

Okamoto, Yumiko. “Impacts of Trade and FDI Liberalization Policies on the Malaysian Economy.” The Developing Economies, XXXII-4, 1994, pp. 460–466.

Ozler, Sule. “Export Orientation and Female Share of Employment: Evidence from Turkey.” *World Development* 28, no. 1 (July 1, 2000): 1239–48. https://doi.org/10.1016/S0305-750X(00)00034-6.

Shepherd, Ben, and Susan Stone. “Trade and Women.” *Asian Development Bank Institute Working Paper Series*, January 2017. https://poseidon01.ssrn.com/delivery.php?ID=524086089074010084107005010084090 1

“THE STATUS OF WOMEN’S RIGHTS IN MALAYSIA.” *Human Rights Commission of Malaysia (SUHAKAM)*, Malaysian Government, 2010, www.suhakam.org.my/wp-content/uploads/2013/11/SUHAKAM-Report-on-The-Status-of-Women-s-Rights-in-Malaysia-2010.pdf.

“Trade and Gender.” OECD. Organisation for Economic Co-operation and Development. Accessed January 18, 2021. https://www.oecd.org/trade/topics/trade-and-gender/.

“Trade Policy Review Mechanism Malaysia - Government Report.” *General Agreement on Tariffs and Trade*, World Trade Organization, 25 June 1993, docs.wto.org/gattdocs/q/GG/CRM/G38.PDF.

Ventura-Dias, Vivianna. “The Gender Implications of Trade Liberalization in Latin America.” International Institutes for Sustainable Development. Trade Knowledge Network. Accessed 2010. https://www.iisd.org/system/files/publications/beyond_barriers_gender_latin_america.pdf.

“Women and Trade: The Role of Trade in Promoting Women's Equality.” World Bank, July 30, 2020. https://www.worldbank.org/en/topic/trade/publication/women-and-trade-the-role-of-trade-in-promoting-womens-equality#:~:text=Trade%20increases%20women's%20wages%20and,through%20a%20combination%20of%20increased.

“Women in Development - Chapter XVI of the Sixth Malaysia Plan.” *Economic Planning Unit*, Malaysian Government, www.epu.gov.my/sites/default/files/2020-08/Chapter%2016%20-%20Woman%20In%20Development.pdf.

Yanikkaya, Halit. “Trade Openness and Economic Growth: a Cross-Country Empirical Investigation.” *Journal of Development Economics* 72, no. 1 (October 2003): 57–89. https://doi.org/https://doi.org/10.1016/S0304-3878(03)00068-3.

Zi, Yuan. “Trade Liberalization and the Great Labor Reallocation,” IZA Institute of Labor Economics, IZA, Mar. 2017, conference.iza.org/conference_files/ICID_Renmin_2017/zi%20_y25656.pdf.